

Donna's new born child has mass of 3108 grams. She wants to know how her child compares with others. The doctor says that she has delivered 45 babies this year, your child is the only 3108 g baby she has had and there were 15 babies smaller than hers. What is her percentile rank of Donna's baby?

$$\text{Rank} = B + \frac{1}{2}(E) = 100$$

$$= 15 + \frac{1}{2}(1) \cdot 100 = 35$$

Charlene needs a reliable car to get to work. She earns \$1,700 every two weeks (i.e. bi-weekly) from her job and gets a CCB (Child Benefit) of \$480 per month. She pays \$150 for day care and has a monthly \$105 cell phone cost. She cannot get out of it, her rent is \$1200 per month. She will take a loan for five years for the full cost of the car. Pst and Gst are 13%.

1.) What loan can she afford based on T.D.S.R.?

Car: A car travels 1000 km and consumes 70 L of fuel. Calculate the fuel economy in L/100 km for the car. $\frac{70}{1000} = 0.07$ L/km $\cdot 100 = 7$ L/100 km

depreciate A brand new car costs \$26,800 after taxes. It will depreciate 15% in the first year. Calculate the value of the car after the first year. $26,800 \cdot 0.85 = 22,780$

Calculate the value of the car after 3 years if it depreciates 15% from the preceding year. $22,780 \cdot 0.85^2 = 16,358$

Sasha recently purchased a new house with a 20-year mortgage of \$174,000. Her monthly mortgage payment is \$1,096.20. State the total amount that Sasha will have repaid to the bank at the end of the mortgage. $1,096.20 \cdot 240 = 263,088$

State the total amount of money paid in interest to the bank over the life of the mortgage. $263,088 - 174,000 = 89,088$

A home has a portioned assessment of \$160,000 and a frontage of 50 feet. The municipal tax rate is 23.01 mills. The education taxes are \$117.20 local sewer improvements are assessed at 6 per foot. Calculate the total taxes due if the provincial property tax credit (money the province credits you and pays for you) is \$750.

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Tom decides to buy a new car in Manitoba for \$21,400. He adds a tow package for \$320. Calculate his gross debt service ratio (GDSR) as a percentage of his gross income of \$38,100 per year. $\frac{320 + 21,400}{38,100} = 0.57$

Chris makes a 10% down payment. Calculate the amount that Chris needs to borrow from the bank for his mortgage. $285,000 \cdot 0.10 = 28,500$

Determine the monthly mortgage payment. $285,000 - 28,500 = 256,500$

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Value of Property	Rate
On the first \$30,000	0%
On the next \$60,000	0.5%
On the next \$60,000	1.0%
On the next \$50,000	1.5%
On amounts in excess of \$300,000	2.0%

She already knows that for the first \$150,000 the land transfer tax will cost \$300. Calculate the total land transfer tax. $150,000 \cdot 0.2\% = 300$

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5.26 + 35.50 = 40.76

1000

1000

1000

1000

1000

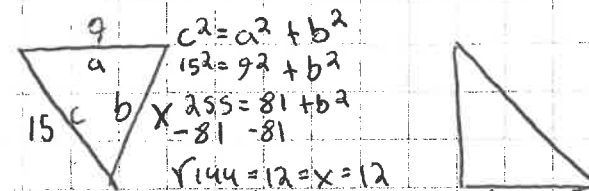
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\bar{x} = Mean sum of all numbers divided the numbers of numbers
 \tilde{x} = Median is the middle number
 Mode = most common number
 Range = is the maximum number - the lowest number

bi weekly	monthly	ANNUAL
$\$108 \cdot 26 = \2808	$\$234 \cdot 12 = \2808	$\$2808$
$\$249$	$\$539.50$	$\$12,948$
$\$184.62$	$\$400$	$\$4,800$
$\$2000 \cdot 26 = 4,333.33$		$\$52,000$



\bar{x} = Kevin had four tests and a final exam. All the tests had the same weight. The final exam was worth twice as much as a single test. If his marks were as follows: test 1: 67 test 2: 87 test 3: 90 test 4: 35 and his final exam was a 92. What was his final course average?

$$\bar{x} = \frac{67 + 87 + 90 + 35 + 92 \cdot 2}{6} = 77\%$$

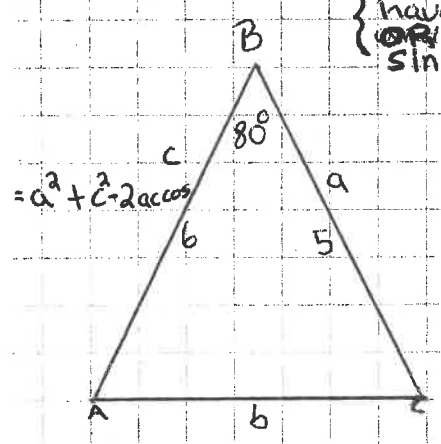
You are looking at buying a house. The house you want is at 136 Bernadine Crescent. (Remax Advert Attached) is listed for sale at \$235.9k. You notice the city assessment in April 2014 assessed the property at value of \$223k. Details attached. You plan to offer \$240k for the house and put down 5%. You expect to get a loan from the bank at 3.5% interest for 25 years. Calculate the property taxes on the house (Proper us: portion assessment for residential property). Assume frontage levy of \$35 per metre. Mill rate with school taxes included is 30 mills. $223,000 \cdot \frac{45}{100} = 100,350$. $100,350 \cdot \frac{30}{100} = 30,105/yr = 35 \cdot 301.60$. b. What will your monthly loan payments be for his $240,000 - 5\% = 228,000$. $\frac{228,000}{2} = 114,000$. $4,74 + 5.28 = 5.01228 = 114,28$

(-)

"TRIGONOMETRY"

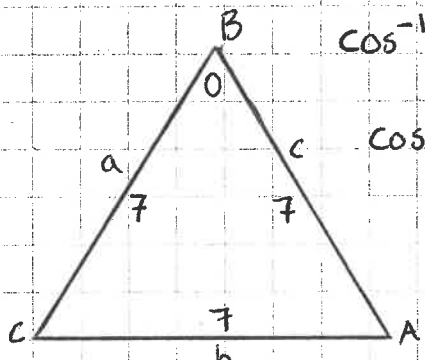
Cos law works when you have two sides & included angle OR all 3 sides
 Sin law: when cos doesn't work

Unknown angle θ

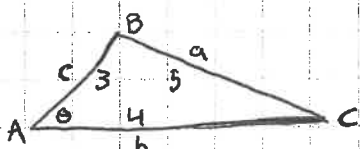


$= a^2 + c^2 - 2ac \cos \theta$

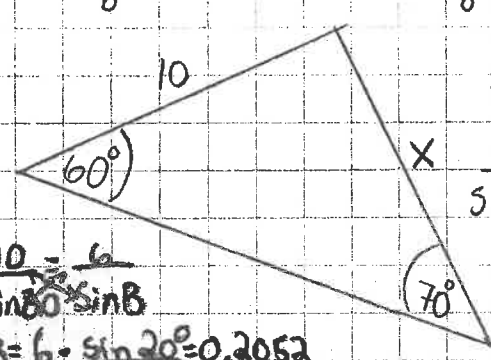
$5^2 + 6^2 - 2 \cdot 6 \cdot 5 \cdot \cos 80^\circ =$
 $\sqrt{50.58} \quad b = 7.1$



$\cos^{-1} \left(\frac{a^2 + c^2 - b^2}{2 \cdot 7 \cdot 7} \right)$
 $\cos^{-1} \left(\frac{7^2 + 7^2 - 7^2}{(2 \cdot 7 \cdot 7)} \right)$
 $= 60^\circ$



$\angle A = \cos^{-1} \left(\frac{b^2 + c^2 - a^2}{2 \cdot 4 \cdot 3} \right) = 90^\circ$



Find side X
 $\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$
 $\frac{X}{\sin 60} = \frac{10}{\sin 70}$
 $X = \frac{10 \cdot \sin 60}{\sin 70} = 9.22$

Solve: a) $3x + 1 = 5.5$ b) $\frac{2}{3}x - \frac{1}{2} = \frac{3}{4}$



sine law $\frac{10}{\sin 20} = \frac{X}{\sin 60}$
 $\sin B = 6 \cdot \sin 20 = 0.2052$
 $\sin^{-1} 0.2052 = 11.84^\circ$